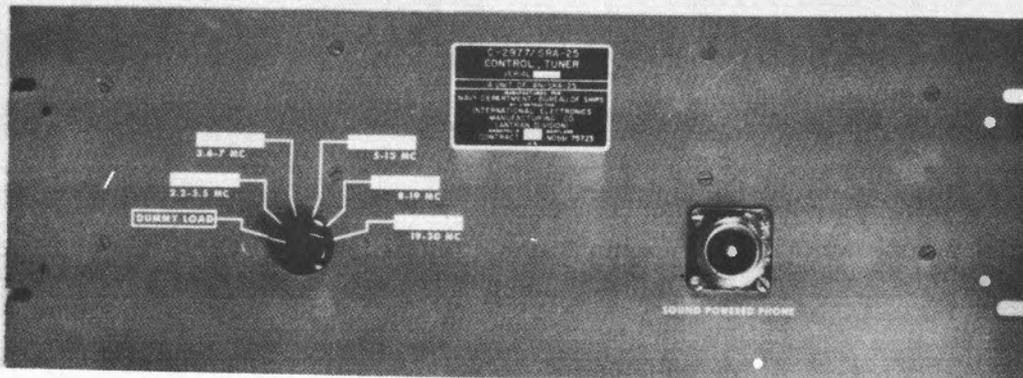
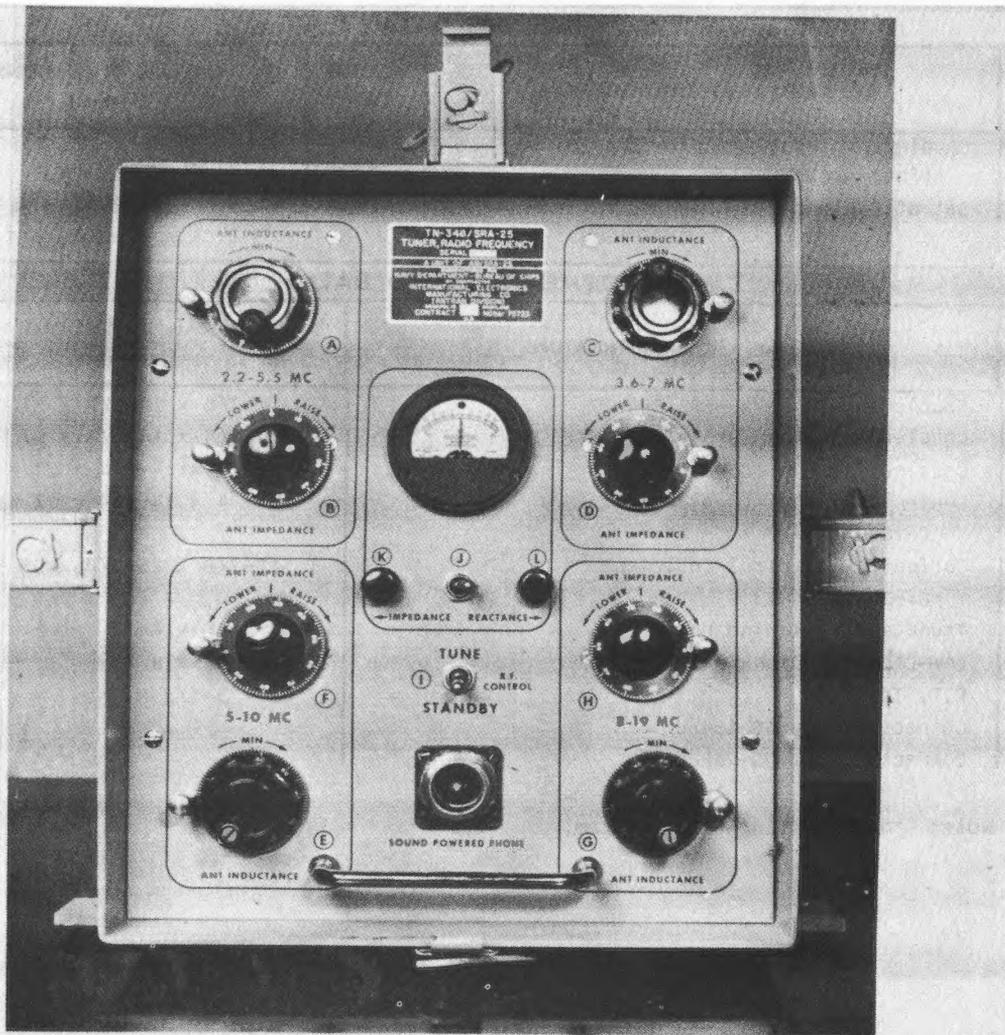


# ANTENNA TUNING GROUP



Antenna Tuning Group AN/SRA-25

February 1960

Radio-Auxiliary

**AN/SRA-25****ANTENNA TUNING GROUP****FUNCTIONAL DESCRIPTION**

Antenna Tuning Group AN/SRA-25 consists of Control, Tuner C-2977/SRA-25; Tuner, Radio Frequency TN-348/SRA-25; mating connectors, and a kit of parts for the associated transmitter control circuit and RF output modification. The AN/SRA-25 is used specifically with the Eldico Single Sideband Communications System S-100. However, it may be used with any transmitter having similar characteristics providing the transmitter is suitably modified.

Antenna Tuning Group AN-SRA-25 provides a means for tuning and matching a standard Navy 35-foot whip antenna, type 66047 or similar, to a 50-ohm transmission line over a frequency range of 2 to 30 mc, thereby allowing maximum transfer of power from the transmitter to the antenna.

Control, Tuner C-2977/SRA-25 consists of: A low pass filter (32 mc cut off), a 6 position selector switch, a sound powered telephone receptacle and a transmit-receive type relay. The control unit remotely selects any one of four pretuned bands of frequencies by the six position selector switch on the front panel. The function of each position is as follows:

<u>Position</u>	<u>Function</u>
1	"DUMMY LOAD"
2	2.2 to 5.5 mc
3	3.5 to 7.0 mc
4	5.0 to 10 mc
5	8.0 to 19 mc
6	19 to 30 mc

The sound powered telephone receptacle provides communication between the control unit and the R.F. tuner during the tuning operation.

Tuner, Radio Frequency TN-348/SRA-25 consists of: Four circuits, matching indicator, sound powered receptacle, manual tuning adjustments on the front panel to preset the antenna loading circuits.

The Tuner functions as an LC circuit in series with the antenna to provide the cor-

rect amount of inductive or capacitive reactance values to make a 35-foot whip antenna appear electrically as a quarter-wave antenna. The Tuner includes a variable transformer for adjusting the impedance of the antenna to the 50-ohm impedance of the associated transmitter and transmission line. The meter on the front panel provides visual indications for resonating and matching the antenna. A 50-ohm, 50-watt supernon-inductive dummy antenna load resistor enables the transmitter output to be initially loaded for optimum performance at the desired impedance before it is switched to the antenna resonating and matching circuits.

**RELATION TO OTHER EQUIPMENT**

Control, Tuner C-2977/SRA-25 replaces the Eldico M-100 Antenna Tuner on the Eldico S-100, Single Sideband Communications System.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

(1) Radio Transmitter or Transceiver (and associated technical manuals), (1) 35 ft. whip antenna NT-66047 or similar, (1) Antenna base insulator NT-61335 or similar, (2) Sound-powered hand telephone assembly chest-set, (As req) Cable RG-10A/U, (As req.) Cable MSCA-14.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

OPERATING FREQUENCY RANGE: 2 to 30 mc.

TRANSMISSION LINE CHARACTERISTIC IMPEDANCE :  
50 ohms (RG-10A/U).

POWER REQUIREMENTS: 110 - 120 volts AC, 60 cycles, single phase, 100 watts. Power is consumed only when channels are being changed. A separate power source is not necessary when operating with the Eldico S-100.

MAXIMUM POWER INPUT: 100 watts.

NUMBER OF OPERATORS REQUIRED: 2.

February 1960

Radio-Auxiliary

## ANTENNA TUNING GROUP

AN/SRA-25

## MANUFACTURER'S OR CONTRACTOR'S DATA

International Electronics Manufacturing  
Company, Antran Division Annapolis,  
Maryland.

Drawing No. IEMC 01-10.

Contract NObsr-75723, dated 12 March  
1959.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 93402: Technical Manual for Antenna  
Group AN/SRA-25.

## TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

TYPE CLASSIFICATION

DESIGN COGNIZANCE

PROCUREMENT COGNIZANCE

STOCK NO.

R.D.B. IDENT. NO.

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	TN-348/SRA-25	2.51	19 X 15 X 15.25	44
1	C-2977/SRA-25	.613	19 X 6.97 X 8	5
1	Kit of connectors	.05	5.4 X 4.1 X 4.1	
1	Field Change Kit	.05	5.4 X 4.1 X 4.1	

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tuner, R. F. TN-348/SRA-25	19 X 15 X 15.25	44
2	Control, Tuner C-2977/SRA-25	25-32 X 13/16 dia.	5
1	Connector UG-941/U	2-1/8 X 1-15/32	
1	Connecoor AN3106A-20-27P	2-13/16 X 19/16 dia.	
1	Connector AN3106E-20-27S	36-1/2 X 11-32 dia.	
2	Cable Assembly AN3106A-14S-2S		
1	Technical Manuals NAVSHIPS 93402	5.4 X 4.1 X 4.1	
	**Field Change Kit		

\*\*Required only when Antenna Tuning Group AN/SRA-25 is used with Single Sideband System S-100.